

What is claimed is:

1. A backlight unit for a display device, comprising:
 - a main light guide plate defined into an n number of regions for a field sequential driving;
 - a plurality of auxiliary light guide plates arranged below edge portions of the main light guide plate;
 - first and second reflection plates arranged below the main light guide plate and the auxiliary light guide plates;
 - a plurality of light source parts arranged at a predetermined interval at sides of the auxiliary light guide plates; and
 - a housing configured to enclose at least parts of the main light guide plate, the auxiliary light guide plates and the light source parts.
2. The backlight unit of claim 1, wherein the main light guide plate comprises a plurality of dot patterns formed on a lower surface of the man light guide late.
3. The backlight unit of claim 1, wherein the housing is constructed concave at side portions of the main light guide plate and the auxiliary light guide plates.

4. The backlight unit of claim 1, wherein each of the auxiliary light guide plates has a width smaller than the main light guide plate and is arranged in one direction.

5. The backlight unit of claim 1, wherein the light source part is an LED lamp having R (Red), G (Green) and B (Blue) light sources.

6. The backlight unit of claim 1, wherein the housing encompasses sides of the main light guide plate, sides and bottom of the auxiliary guide plates, and the light source parts.

7. A backlight unit for a display device, comprising:
first to n-th light guide plates corresponding to an n number of regions for a field sequential driving;
a reflection plate arranged below the first to n-th light guide plates;
a plurality of light source parts arranged at a predetermined interval at both sides of the first to n-th light guide plates; and
a PCB substrate provided with the light source parts arranged at both sides of the first to n-th light guide plates.

8. The backlight unit of claim 7, wherein each of the light source parts comprises a light emitting portion and a body portion respectively arranged on the PCB substrate.

9. The backlight unit of claim 7, wherein the first to n-th light guide plates comprise lower surfaces provided with a plurality of dot patterns.

10. The backlight unit of claim 7, wherein the light source parts include LED lamps having R (Red), G (Green) and B (Blue) light sources.

11. A backlight unit for a display device, comprising:
upper and lower light guide plates each divided into first to n-th regions for a field sequential driving;
a plurality of light sources arranged in a zigzag configuration at sides of the first to n-th regions of the upper and lower light guide plates;
a first reflection plate arranged below the lower light guide plate; and
at least one second reflection plate each positioned below one of the first to n-th regions of the upper light guide plate, adjacent to which the light sources are arranged.

12. The backlight unit of claim 11, further comprising:
a PCB substrate supporting the light sources.

13. The backlight unit of claim 12, wherein each of the
light sources comprises a light emitting portion and a body
portion respectively arranged on the PCB substrate.

14. The backlight unit of claim 11, wherein the upper
and lower light guide plates comprise lower surfaces provided
with a plurality of dot patterns.

15. The backlight unit of claim 14, wherein the dot
patterns are provided only on certain regions of each of the
upper and lower light guide plates, adjacent to which the
light sources are arranged.

16. The backlight unit of claim 11, wherein when each of
the upper and lower light guide plates is divided into first
to fourth regions to be four division-driven by a divided
display area method, the light sources are arranged at both
sides of the first and third regions of the upper light guide
plate and at both sides of the second and fourth regions of
the lower light guide plate.

17. The backlight unit of claim 11, wherein the light sources are LED lamps having R (Red), G (Green), and B (Blue) colors.

18. A backlight unit for a display device, comprising:
a light guide plate divided into an n number of regions for a field sequential driving;
a reflection plate arranged below the light guide plate;
a plurality of light sources arranged at a predetermined interval at sides of the light guide plate;
a PCB substrate supporting the light sources; and
an optical shutter arranged above the light guide plate and driven in synchronization with an operation of the light sources.

19. The backlight unit of claim 18, wherein each of the light sources comprises a light emitting portion and a body portion respectively arranged on the PCB substrate.

20. The backlight unit of claim 18, wherein the light guide plate comprises a lower surface provided with a plurality of dot patterns.

21. The backlight unit of claim 18, wherein the optical

shutter is divided into an n number of regions corresponding to the n number of regions of the light guide plate.

22. The backlight unit of claim 18, wherein the optical shutter comprises:

upper and lower plastic substrates facing each other with a predetermined interval therebetween;

first and second transparent electrodes respectively arranged on the upper and lower plastic substrates;

first and second polarizing plates respectively arranged on rear sides of the upper and lower plastic substrates; and

a liquid crystal layer interposed between the upper and lower plastic substrates.

23. The backlight unit of claim 22, wherein the first transparent electrode of the upper plastic substrate is divided into first to n-th regions, and the divided first to n-th regions are connected with a switching part so as to be sequentially opened.

24. The backlight unit of claim 22, wherein the second transparent electrode is formed on a front side of the lower plastic substrate.

25. The backlight unit of claim 18, wherein the light sources are LED lamps.

26. A backlight unit for a display device, comprising:
a plurality of light sources arranged on a substrate;
a diffusion plate arranged above the light sources, for uniformly diffusing light irradiated from the light sources;
and

an optical shutter divided into an n number of regions for a field sequential driving and driven in synchronization with the light sources.

27. The backlight unit of claim 26, wherein each of the light sources comprises a light emitting portion and a body portion disposed on a PCB substrate.

28. The backlight unit of claim 26, wherein the light sources are LED lamps.

29. A liquid crystal display device using a backlight unit, the liquid crystal display device comprising:

(a) the backlight unit including: a main light guide plate defined by an n number of regions for a field sequential driving; a plurality of auxiliary light guide plates arranged

below edge portions of the main light guide plate; first and second reflection plates arranged below the main light guide plate and the auxiliary light guide plates; a plurality of light source parts arranged at a predetermined interval at sides of the auxiliary light guide plates; and a housing configured to enclose at least parts of the main light guide plate, the auxiliary light guide plates and the light source parts; and

(b) a liquid crystal panel above the backlight unit.

30. The liquid crystal display device of claim 29, wherein the liquid crystal panel includes first and second glass substrates attached to each other with a space therebetween, and a liquid crystal layer interposed between the first and second glass substrates.

31. A liquid crystal display device using a backlight unit, the liquid crystal display device comprising:

(a) the backlight unit including: first to n-th light guide plates corresponding to an n number of regions for a field sequential driving; a reflection plate arranged below the first to n-th light guide plates; a plurality of light source parts arranged at a predetermined interval at both sides of the first to n-th light guide plates; and a PCB

substrate in which the light source parts are arranged at both sides of the first to n-th light guide plates; and

(b) a liquid crystal panel above the backlight unit.

32. The liquid crystal display device of claim 31, wherein the liquid crystal panel includes first and second glass substrates attached to each other with a space therebetween, and a liquid crystal layer interposed between the first and second glass substrates.

33. A liquid crystal display device using a backlight unit, the liquid crystal display device comprising:

(a) the backlight unit including: upper and lower light guide plates each divided into first to n-th regions for a field sequential driving; a plurality of light sources arranged in a zigzag configuration at sides of the first to n-th regions of the upper and lower light guide plates; a first reflection plate arranged below the lower light guide plate; and at least one second reflection plate each positioned below one of the first to n-th regions of the upper light guide plate, adjacent to which the light sources are arranged; and

(b) a liquid crystal panel above the backlight unit.

34. The liquid crystal display device of claim 33, wherein the liquid crystal panel includes first and second glass substrates attached to each other with a space therebetween, and a liquid crystal layer interposed between the first and second glass substrates.

35. A liquid crystal display device using a backlight unit, the liquid crystal display device comprising:

(a) the backlight unit including: a light guide plate divided into an n number of regions for a field sequential driving; a reflection plate arranged below the light guide plate; a plurality of light sources arranged at a predetermined interval at sides of the light guide plate; a PCB substrate supporting the light sources; and an optical shutter arranged above the light guide plate and driven in synchronization with an operation of the light sources; and

(b) a liquid crystal panel above the backlight unit.

36. The liquid crystal display device of claim 35, wherein the liquid crystal panel includes first and second glass substrates attached to each other with a space therebetween, and a liquid crystal layer interposed between the first and second glass substrates.

37. A liquid crystal display device using a backlight unit, the liquid crystal display device comprising:

(a) the backlight unit including: a plurality of light sources arranged on a substrate; a diffusion plate arranged above the light sources, for uniformly diffusing light irradiated from the light sources; and an optical shutter divided into an n number of regions for a field sequential driving and driven in synchronization with the light sources; and

(b) a liquid crystal panel above the backlight unit.

38. The liquid crystal display device of claim 37, wherein the liquid crystal panel includes first and second glass substrates attached to each other with a space therebetween, and a liquid crystal layer interposed between the first and second glass substrates.